

## COASTAL CONSERVANCY

Staff Recommendation  
June 5, 2008

### HUMBOLDT BAY REGIONAL INVASIVE SPARTINA PROJECT, PHASE I

File No. 08-010-01  
Project Manager: Joel Gerwein

**RECOMMENDED ACTION:** Authorization to accept \$150,000 in federal grant funds and disburse up to \$175,000 for implementation of Phase I of the Humboldt Bay Regional Invasive Spartina Eradication Project.

**LOCATION:** Humboldt Bay, Mad River Slough, and the Eel River Estuary, Humboldt County (Exhibit 1)

**PROGRAM CATEGORY:** Integrated Coastal & Marine Resources Protection

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#### **EXHIBITS**

Exhibit 1: [Project Location](#)

Exhibit 2: [Distribution of \*Spartina densiflora\* in Humboldt Bay in 2000](#)

Exhibit 3: [Photos](#)

Exhibit 4: [Letters of Support](#)

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#### **RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31111 and 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the following in order to complete Phase 1 of the Humboldt County Invasive Spartina Eradication Project: 1) acceptance of \$150,000 (one hundred fifty thousand dollars) in Coastal Impact Assistance Program (CIAP) grant funds from the U.S. Minerals Management Service through the California Resources Agency; 2) disbursement of an amount not to exceed \$115,000 (one hundred fifteen thousand dollars) in CIAP grant funds; and 3) disbursement of an amount not to exceed \$60,000 (sixty thousand dollars) in Conservancy funds. The total disbursement of up to \$175,000 (one hundred seventy-five thousand) will be made in roughly equal amounts to the U.S. Fish and Wildlife Service (USFWS) for data collection on the distribution of invasive Spartina and on the effectiveness and impacts of Spartina eradication methodologies, and to engage a qualified environmental services consultant for the preparation of the Spartina Eradication Plan. Prior to disbursement of any funds, the USFWS and the consultant shall submit for the review and approval of the Conservancy’s Executive Officer a work plan, schedule, budget, and the names of any contractors or subcontractors to be retained for implementation of the project.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with the purposes and objectives of Chapter 5.5 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resource protection projects.
2. The proposed project is consistent with the Project Selection Criteria and Guidelines, last updated by the Conservancy on September 20, 2007.”

### PROJECT SUMMARY:

The goal of this project is to develop a regional invasive cordgrass eradication plan (Plan) for the Humboldt Bay, Eel River, and Mad River estuaries, in order to restore and protect the native plant and wildlife communities of tidal marshes in these areas (Exhibit 1). Invasive dense-flowered cordgrass (*Spartina densiflora*) has come to dominate an estimated 90% of salt marshes in the three adjacent estuaries of Humboldt Bay, the Eel River Delta, and the Mad River Estuary. Invasive cordgrass is known to displace native vegetation, reducing the biodiversity of the salt marsh dramatically. The species was mapped in Humboldt Bay in 1998 and 1999 (Exhibit 2). At that time, over half of the total salt marsh consisted of nearly pure stands of cordgrass, and the species was present in much of the remaining salt marsh, as well. While cordgrass is most abundant at mid-marsh elevations in Humboldt Bay, it has been shown to be spreading to the high marsh, where it threatens to displace populations of Humboldt Bay Owl’s Clover (*Castilleja ambigua* ssp. *humboldtiensis*) and Point Reyes Bird’s Beak (*Cordylanthus maritimus* ssp. *palustris*), both ranked as endangered (List 1B.2) by the California Native Plant Society.

While cordgrass is most common in Humboldt Bay in salt and brackish marshes, its presence has also been noted on mudflats and on sand spits, and it may have the potential to spread in these environments (Exhibit 3). Little is known about the ecosystem-level impacts of this invasion, but it appears likely that it has altered sedimentation rates and carbon cycling rates in Humboldt Bay and neighboring estuaries. In other estuaries, the invasive members of the genus have been shown to act as “ecosystem engineers,” bringing about drastic changes to ecosystem functions.

In addition to its direct impacts, the dominance of invasive cordgrass in Humboldt Bay has slowed efforts at marsh restoration because of fears that restored marshes will become dominated by cordgrass, compromising their habitat value. In addition to its impacts locally to these estuaries, cordgrass in Humboldt Bay and adjacent estuaries threatens to colonize other west coast estuaries via ocean dispersal of its seeds, as demonstrated by the preliminary results of a drift card study carried out by Portland State University. Drift cards from Humboldt Bay in 2004 and 2005 were found within a month of their release in numerous locations along the Oregon Coast, as well as in southwest Washington. The 2007 West Coast Governors’ Agreement on Ocean Health Draft Action Plan calls for the west coast-wide eradication of invasive *Spartina* cordgrasses.

Work in several west coast estuaries including San Francisco Bay, California and Willapa Bay, Washington, has shown that a prerequisite to successful eradication of invasive cordgrass is a coordinated, regional approach. Since the species disperses primarily by seed, it is necessary to greatly reduce seed production within the control area and any source populations. Eradication

can then be achieved once the seed bank is exhausted. Experiences in other west coast estuaries have shown that the local community must be educated and supportive for such an eradication program to succeed. This is especially true when some salt marshes are under private ownership, as is the case in Humboldt Bay and adjacent estuaries.

In Washington and Oregon, successful eradication has required the use of the herbicide imazapyr as part of an Integrated Pest Management strategy that also includes mechanical methods. The community around Humboldt Bay has shown resistance in the past to the use of herbicides by land management entities seeking to eradicate invasive species. The proposed project will require a genuine Integrated Pest Management approach that evaluates all alternatives in order to gain community support and the cooperation of private landowners. A thorough analysis of the ecological impacts of the cordgrass invasion, and of cordgrass eradication, will be important to shape the Plan and to build support for it.

U.S. Fish and Wildlife Service (FWS) staff at the Humboldt Bay National Wildlife Refuge (HBNWR) has been working for over four years cooperatively with the Conservancy to develop mechanical cordgrass control techniques. To date, approximately 15 acres of cordgrass have been treated, and all mature plants were killed. This work has shown that mechanical methods can be used successfully at this scale, and over a larger area as part of an IPM strategy, but has also demonstrated the need for a regional approach in order to prevent re-invasion.

The Plan will include a technical analysis developed by a team of experts on cordgrass control and estuarine ecology, and an implementation strategy, developed collaboratively among local agencies and stakeholders. In order to accomplish this, two directions of activity must be pursued simultaneously. Critical data on the extent of the invasion and on eradication methodology must be collected, and at the same time public understanding of the need for eradication must be built. The latter also requires that a better knowledge of the impacts of cordgrass and cordgrass eradication on local estuaries. Whereas *S. densiflora* is the only species of *Spartina* currently known in Humboldt County, other west coast estuaries that have been studied and/or managed have been invaded primarily by *S. alterniflora*. This species occupies a very different ecological niche and its role and impacts in the estuary cannot be generalized to *S. densiflora*.

The technical portion of the Plan will describe the role of cordgrass in local estuaries and its current and anticipated impacts. The distribution of cordgrass in the three estuaries will be mapped to facilitate eradication planning. In addition, this portion of the Plan will compare the effectiveness and environmental impacts of alternative approaches to cordgrass eradication. Eradication approaches will be recommended for a variety of settings in Humboldt Bay (e.g. high marsh, mid marsh, high density stands, low density stands). This portion of the Plan will be prepared by FWS, which will oversee a technical team consisting of experts in cordgrass control and estuarine ecology from Humboldt Bay and other areas, such as Willapa Bay and San Francisco Bay.

The technical portions of the Plan will be informed by small and medium scale cordgrass eradication efforts that will compare different control techniques. These control efforts will not involve herbicide application in the Humboldt Bay region outside a greenhouse setting. All control efforts will take place in designated wildlife management areas, where the result is anticipated to be improved habitat for fish and wildlife. Control efforts will not result in significant impacts to the environment. While special status plant species may be present at the site of control efforts, removal of or adverse impacts to special status species will be avoided by identification of those plants before initiating control activities. In addition, removal of invasive

*Spartina* will prevent the potential competitive displacement of special status plant species. Control efforts will be conducted primarily for research purposes, in order to determine the optimal eradication methodologies to employ in future phases of the project. This research/implementation portion of the project will be overseen FWS staff at the HBNWR. Staff at the HBNWR is highly qualified to oversee this portion of the project. As noted above, HBNWR staff has been working on *Spartina* control in Humboldt Bay for over four years, and is also experienced with control of other invasive species in local environments.

The Plan will also outline an implementation strategy that accommodates the variety of agencies and stakeholder groups in the area that will need to work together to eradicate cordgrass. Preparation of the implementation strategy portion of the Plan will be overseen by a qualified environmental services consultant, with input from agencies and stakeholders and assistance from the Conservancy. The consultant will also conduct focused outreach as part of plan preparation, in order to elicit public input on the Plan.

The Plan is scheduled to be completed by Spring 2010. It is anticipated that funding from other state and federal sources will be available for Plan implementation, as invasive *Spartina* control coastwide is a priority of the 2007 West Coast Governors' Agreement on Ocean Health Draft Action Plan.

**Site Description:** As California's second largest natural bay and the largest estuary on the Pacific coast between San Francisco Bay and Coos Bay, Oregon, Humboldt Bay (Exhibit 1) is a complex ecosystem and valuable resource for California and the nation because of its natural and environmental resources, its aesthetic appeal and recreational opportunities, its ecological services, economic benefits, and its vital transportation links. Visitors and Humboldt County residents alike value Humboldt Bay for its natural and man-made attributes. The biota associated with Humboldt Bay is diverse and ecologically significant at scales ranging from a local focus on fisheries and algal uses by local residents to a participation in hemispheric ecological patterns such as shorebird and waterfowl migration. The Bay hosts over 100 plant species, 300 invertebrate species, 100 fish species, and 200 bird species, including those that rely on the bay as they travel the Pacific Flyway. Recent studies indicate the importance of the Bay in the life cycles of commercially and recreationally important fish species, and the general level of biological vitality in the Bay has been identified as an important aesthetic and quality-of-life variable for both residents and visitors to the area. During the late-nineteenth and early twentieth centuries, diking and filling reduced Bay salt marshes from an estimated 9,000 acres to only 900 acres today. Bay habitat has been further disturbed by discharges of agricultural and urban runoff, industrial and recreational uses, and colonization by invasive cordgrass.

The estuarine channel of the Eel River flows into the Pacific Ocean approximately 14 miles south of the town of Eureka in Humboldt County. The Eel River Estuary includes approximately 24 square miles of delta lands, wetlands, and estuarine channels that receive runoff from 3,700 square miles of the mountainous Eel River Basin. It is considered one of the most significant estuaries along the entire California Coast, and its mosaic of tidal flats, sloughs, marshes and seasonal wetlands supports hundreds of thousands of resident and migratory waterfowl. Approximately 560 acres of salt marsh are present in the estuary today. Approximately 5,200 additional acres of salt marsh that were present in the estuary in 1855 have been lost due to diking, filling, and other human activities. Invasive dense-flowered cordgrass has been noted to

be widespread in the marshes of the Eel River estuary, but cordgrass distribution in this area has not been mapped. The Eel River was designated as a Critical Coastal Area (CCA) in 1995, as a waterbody impaired by excessive sediment and temperature that flows into an estuary.

The Mad River estuary is located just north of Arcata. Like the Eel River, the Mad River was designated as a CCA in 1995, as a waterbody impaired by excessive sediment, temperature, and turbidity that flows into an estuary. The Mad River estuary is smaller than the Humboldt Bay and Eel River estuaries, and contains a smaller acreage of tidal marsh. It is an extremely dynamic ecosystem, as evidenced by significant migration of the mouth of the Mad River up and down the coast since the 1940s. Between 1942 and 1992, the Mad River mouth moved from a location approximately across from present-day School Road in McKinleyville to just below the Clam Beach Vista Point across from the McKinleyville airport. In 1997, the Mad River opened a new mouth two miles south of the former mouth. The abandoned channel became a lagoon/estuary with a mixture of freshwater and brackish marshes, fed by Widow White Creek and subject to high tides entering the new mouth of the river. The estuary supports populations of coho and Chinook salmon, steelhead, and western snowy plover. Invasive cordgrass is present in this estuary, in marshes and flood channels, and in and adjacent to riparian scrub habitat. As is the case with the Eel River estuary, the cordgrass population in the Mad River estuary has not been mapped.

**Project History:** Since the 1980s, the Coastal Conservancy has worked closely with the FWS, the Humboldt Bay Harbor, Recreation and Conservation District, and other stakeholders to protect and restore the fish and wildlife habitat of Humboldt Bay and adjacent dunes. The Conservancy has assisted with conservation acquisitions, development of plans and habitat restoration techniques, implementation of restoration, and post-project monitoring. The HBNWR and volunteers have been essential in carrying out labor-intensive restoration activities in sensitive dune and wetland areas.

A 1997 FWS study reported a dramatic increase in cordgrass frequency over the previous 10 years in the Mad River Slough Unit of the HBNWR, supporting the concern that cordgrass threatens to increase its disruption of the Bay ecosystem. In 1998 and 1999, the FWS undertook mapping and observations of cordgrass and of two rare high salt marsh plants, Humboldt Bay owl's clover (*Castilleja ambigua* var. *humboldtiensis*) and Point Reyes bird's beak (*Cordylanthus maritimus* ssp. *palustris*). The study looked at all three plants because cordgrass had been observed to be encroaching upon the same salt marsh elevations at which the two rare plants are found. The FWS' February 2001 report on its findings noted among management implications that the "dense-flowered cordgrass continues to be a major threat to biological diversity" and that "identifying and applying control measures for this invasive plant is of the highest priority."

In April 2003, the Conservancy provided funding to the FWS to undertake a pilot study of manual techniques for eradicating cordgrass in Humboldt Bay. In June 2006, the Conservancy provided \$50,000 to apply the manual techniques tested in the 2003-2005 pilot project to a larger area (approximately 50 acres) of salt marsh within HBNWR. This project will be completed in September 2008. As discussed above in the "Project Summary" section, control efforts successfully eradicated mature cordgrass plants and restored native vegetation, but a continued influx of cordgrass seedlings has required ongoing control efforts and demonstrated the need for a regional control program. The ample pool of volunteers dedicated to protecting and restoring the HBNWR provided much of the manual labor during the pilot study and the current control

effort.

FWS staff initially contacted Conservancy staff in January 2008 regarding the proposed project. Conservancy staff and FWS staff have already begun to reach out to potential partners for the Spartina planning process. The FWS, Conservancy, and the California Ocean Protection Council co-sponsored a Spartina Summit on February 13, 2008 in Eureka to share information about invasive Spartina and its control and to discuss management options for Spartina in Humboldt County. Over 50 people from a variety of local, state and federal agencies, businesses, and non-profit groups attended the summit and expressed their interest in participating in regional planning for Spartina eradication.

#### **PROJECT FINANCING:**

Coastal Conservancy	\$60,000
CIAP Grant via California Resources Agency	<u>\$ 150,000</u>
<b>Total Project Cost</b>	<b>\$210,000</b>

The majority of the funding for this project will consist of Coastal Impact Assistance Program (CIAP) funds. The U.S. Minerals Management Service (MMS) provided the CIAP funds to the Resources Agency, who in turn has agreed to provide the funds to the Conservancy as a grant. The CIAP was established under section 384 of the Energy Policy Act of 2005 (the Act) and authorizes the Secretary of the Interior, as delegated to the MMS, to distribute \$250 million annually to the 6 outer continental shelf oil and gas producing states in federal fiscal years 2007 through 2010. The Act allows a state agency to use CIAP funds for projects that serve to conserve, protect, or restore coastal areas, including wetlands. Of the total of \$150,000 in CIAP funds, \$115,000 will be disbursed to FWS and to an environmental services consultant to implement the project and the remainder will be applied to Conservancy staff costs incurred in connection with managing and administering the project. The project has been included in California's State Coastal Impact Assistance Plan, and the CIAP funds for the project are expected to be awarded in fall 2008.

The Conservancy funds for this project are expected to derive from the 05/06 appropriation to the Conservancy from the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Proposition 50). Proposition 50 funds are appropriated to the Conservancy to restore and protect coastal watersheds through projects undertaken pursuant to the Conservancy's enabling legislation (Division 21 of the Public Resources Code) to restore water and land resources (Water Code § 79570). Proposition 50 funds may be used as proposed here for restoration and enhancement planning (Water Code §79570). The project is consistent with the Conservancy's enabling legislation as described below. Finally, as required by Proposition 50, the proposed project is consistent with local and regional watershed plans, as discussed below (Water Code §79507).

It is anticipated that Conservancy funds for the project will be disbursed before CIAP funds for the project have been awarded. Disbursement of Conservancy funds will allow FWS to begin work mapping invasive cordgrass and collecting data on the impacts and effectiveness of eradication methodologies in summer 2008. Information on cordgrass distribution and eradication methodologies acquired by FWS will be useful in evaluating the feasibility of and

building public support for cordgrass eradication, even in the unlikely event that CIAP funds do not become available as anticipated.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

The proposed project is undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resources Code (Section 31220) and pursuant to Section 31111, as follows:

Pursuant to Section 31220(a) and 31220(b), the Conservancy may undertake projects to protect and restore coastal habitats section if the project “protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds.” Consistent with this section, the proposed authorization authorizes the use of funds to plan for the protection and restoration of tidal marshes and other habitats in Humboldt Bay, the Eel River Delta, and the Mad River estuary.

Section 31220(a) requires the Conservancy to consult with the State Water Resources Control Board (SWRCB) in the development of a project to ensure consistency with Chapter 3 of Division 20.4 of the Public Resources Code. In keeping with this requirement, the Conservancy has consulted with the SWRCB to ensure the consistency of the project with the referenced section of the Public Resources Code.

Under Section 31220(c), Conservancy projects funded under this section must “include a monitoring and evaluation component” and be consistent with applicable Integrated Regional Water Management Programs, local watershed management plans, and water quality control plans adopted by the state or regional water quality control boards. The Regional Spartina Eradication Plan will include a monitoring and evaluation component. In addition, the project will include research projects to compare the effectiveness of various cordgrass eradication methods. These research projects will be monitored in order to evaluate the best eradication methods to use on a larger scale. The consistency of this project with local and regional watershed and water quality plans is discussed in the “Consistency with Local Watershed Management Plan and Regional Water Quality Control Plan” section below.

Finally, Section 31111 provides that “the Conservancy may fund and undertake plans and feasibility studies, and may award grants to public agencies and nonprofit organizations for these purposes.” Consistent with this section, this project will authorize funds to be used for the preparation of a Plan to protect and restore tidal marshes in Humboldt Bay, the Eel River Delta, and the Mad River estuary by eradicating invasive cordgrass.

**CONSISTENCY WITH CONSERVANCY’S 2007  
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5, Objective A** of the Conservancy’s 2007 Strategic Plan, the proposed project will result in a plan for the eradication of invasive species and to restore coastal wetlands.

## **CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on September 20, 2007, in the following respects:

### **Required Criteria**

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** The project is supported by State Assemblywoman Patty Berg, State Senator Pat Wiggins, and many others in the Humboldt Bay region. Support letters are included in Exhibit 5.
4. **Location:** The proposed project is located within the coastal zone of Humboldt County.
5. **Need:** The Conservancy funds constitute the state match for the CIAP grant. Without the combined Conservancy and CIAP funds the Spartina planning process would not go forward.
6. **Greater-than-local interest:** The proposed project will lead to the restoration of Humboldt Bay, Eel River and Mad River Estuary, plant and wildlife habitat of regional and statewide importance for resident and migratory species. In addition, the project will facilitate the protection of marshes in Oregon and Washington from colonization by invasive Spartina seeds dispersing from the Humboldt Bay region.

### **Additional Criteria**

7. **Urgency:** The proposed project is urgent due to the need to prevent further spread of cordgrass within and outside of the Humboldt Bay region, and to restore habitat for Humboldt Bay region fish and wildlife populations that are already stressed by urban, agricultural, and maritime impacts.
8. **Leverage:** See the "Project Financing" section above.
9. **Readiness:** Matching funds for this project have already been approved, and the FWS is prepared to begin data collection and planning this summer.
10. **Realization of prior Conservancy goals:** See "Project History" above. The project is an important step towards protecting and restoring tidal marshes in the Humboldt Bay region.
11. **Cooperation:** The Conservancy and FWS will involve a diverse group of stakeholders in planning, including local residents, community groups, and representatives of local, state, and federal agencies.

## **CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The Humboldt Bay Area Plan (HBAP) of the Humboldt County Local Coastal Program (LCP), certified by the California Coastal Commission in 1982, defines environmentally sensitive habitats as including "wetlands and estuaries, including Humboldt Bay and the mouth of the Mad River" (HBAP Section 3.30(B), p. 42). The HBAP cites Section 30240(a) of the California



Coastal Act, stating that “environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values” (HBAP Section 3.30, p. 38). In addition, the HBAP stresses the tremendous value of salt marsh, brackish marsh, and other natural habitats for fish and wildlife in Humboldt Bay (HBAP, Section 3.30(A), pp.39-40).

The Eel River Area Plan (ERAP) of the Humboldt County LCP, also certified by the California Coastal Commission in 1982, specifically highlights the protection of salt marshes in the area and of the Eel River estuary as important issues of statewide concern. The ERAP defines environmentally sensitive habitats within the Eel River Planning Area as including “estuaries, sloughs, and wetlands” (ERAP Section 3.41(A), p. 33). Similar to the HBAP, the ERAP cites Section 30240(a) of the California Coastal Act, stating that “environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values” (ERAP Section 3.41, p. 33). The ERAP designates estuarine areas and salt marshes as natural resource areas, with limited allowable uses, including wetland restoration (ERAP Section 3.41(B), p. 35).

The project will result in the preparation of a Plan to protect and restore coastal wetlands in Humboldt Bay, the Eel River estuary, and the Mad River estuary. Therefore, the project is entirely consistent with the policies of the HBAP and the ERAP of the Humboldt County LCP, as discussed above.

The proposed project is also consistent with resource protection policies in the City of Arcata’s certified LCP and the City of Eureka’s certified LCP. Section D of the City of Arcata’s LCP, regarding wetlands and riparian resources, provides for the establishment of Wetland Buffer Areas to protect sensitive wetlands and states that the City will seek funding for restoration of degraded natural resources. The City of Eureka’s 1997 General Plan Policy Document (GPPD), which was certified by the Coastal Commission as an update to the City of Eureka’s LCP in 1999, contains several policies consistent with the project. The GPPD designates wetlands as environmentally sensitive habitat areas (GPPD Section 6.A.6, pg. B-15) and states that the City of Eureka “shall ensure that environmentally sensitive habitat areas are protected against any significant disruption of habitat values, and that only uses dependent on such resources shall be allowed within such areas” (GPPD Section 6.A.7, pg. B-15). The GPPD also states that the City of Eureka “shall maintain and, where feasible, restore biological productivity and the quality of coastal waters, streams, wetlands, and estuaries...” (GPPD Section 6.A.1, pg. B-14).

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN, INTEGRATED REGIONAL WATER MANAGEMENT PLAN, AND REGIONAL WATER QUALITY CONTROL PLAN:**

The project is consistent with, and furthers the goals of, the Humboldt Bay Management Plan (HBMP), prepared in May 2007 by the Humboldt Bay Harbor, Recreation, and Conservation District. The HBMP expresses support for the goals of the proposed project in the following statement:

Salt marshes in the Bay have been reduced substantially in area with respect to their pre-settlement extent, and they continue to be lost. In addition, the extant salt marshes are degraded by the dominant presence of dense-flowered cordgrass. The benefits of shoreline-protecting salt marshes for stabilizing sediment and protecting shoreline structures from wave impacts combine with a conservation focus on maintaining or

restoring salt marshes to make the restoration or enhancement of salt marshes an important concern for the District. (HBMP, p.129)

The proposed project is consistent with Objective CAS-3: Maintain and enhance habitat for sensitive species” (HBMP, p.204), in that it will lead to the protection and restoration of habitat for Point Reyes bird’s beak and Humboldt Bay Owls Clover, both listed as endangered by the California Native Plant Society. The proposed project is also consistent with HBMP Objective CAS-4: “Control or remove non-indigenous invasive species” (HBMP, 205).

The project is consistent with, and furthers the goals of, the Humboldt Bay Watershed Salmon and Steelhead Conservation (HBSSC) Plan, prepared by the Humboldt Bay Watershed Advisory Committee in March 2005. The HBSSC Plan highlights the importance of the Bay’s tidal marshlands in supporting salmon populations, as well as diverse communities of fish and wildlife (p.11). The HBSSC Plan notes that estuarine habitat is necessary for the survival of salmon and that this habitat “has been significantly reduced by construction of levees and tidegates, and placement of fill” (HBSSC Plan, p.viii). One of the stated goals of the HBSSC Plan is to “Maintain and restore estuary processes that benefit salmonids” (HBSSC Plan, p.ix). The proposed project would further this goal by facilitating the restoration of tidal marshes, as discussed above in the “Project Summary” section.

The proposed project is also consistent with the North Coast Integrated Regional Water Management Plan (NCIRWMP), completed in July 2007. The NCIRWMP notes that many North Coast habitats have been “impacted...by invasion of non-native plant species” (NCIRWMP, p.14). The NCIRWMP notes that a significant disruption of ecological processes has resulted from this invasion, as well as from a number of other impacts, and that this disruption is exemplified by the decline in salmon populations in the region (*Id.*). The proposed project is consistent with the NCIRWMP’s Objective #1: “Conserve and enhance native salmonid populations by protecting and restoring required habitats, water quality and watershed processes” (NCIRWMP, p.7). The proposed project would further this goal by facilitating the restoration of tidal marshes in estuarine environments that are important to the health of salmon populations.

The proposed project is also consistent with the Water Quality Control Plan for the North Coast (adopted by the Regional Water Quality Control Board North Coast Region in 1988 and last updated in 2007) in that it constitutes an important step towards the protection and enhancement of wildlife habitat, habitat for rare, threatened and endangered species, and estuarine habitat in Humboldt Bay, the Eel River estuary, and the Mad River estuary. The Water Quality Control Plan for the North Coast designates wildlife habitat, rare, threatened, and endangered species habitat, and estuarine habitat as beneficial uses of Humboldt Bay, the Eel River estuary, and the Mad River estuary (Water Quality Control Plan for the North Coast, Table 2-1, pp. 2-8 to 2-12).

#### **COMPLIANCE WITH CEQA:**

Preparation of the Spartina Eradication Plan involves only data gathering, planning, and feasibility analyses for possible future actions that have not yet been authorized or approved by the Conservancy or another agency and is thus statutorily exempt under the California Environmental Quality Act (CEQA) pursuant to 14 California Code of Regulations Section 15262. The plan will, however, consider environmental factors, as required by Section 15262.

The proposed project will include research studies to evaluate alternative methods of eradicating invasive cordgrass. These research studies will involve eradication of cordgrass in an area not to exceed ten acres. These efforts, as well as other components of the project such as cordgrass mapping, are exempt from CEQA pursuant to 14 California Code of Regulations Section 15306. This categorical exemption applies to activities that consist of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. No herbicide trials will be conducted in Humboldt Bay salt marshes as part of Phase I of the Humboldt Bay Regional Invasive Spartina Project.

In addition, the experimental cordgrass eradication efforts are categorically exempt from review under CEQA pursuant to 14 Cal. Code of Regulations Section 15304, in that they involve only minor alterations to the condition of land, water and/or vegetation but do not involve the removal of mature, healthy scenic trees. Section 15304(d) provides that this exemption applies to such activities in designated wildlife management areas, where the result would be improved habitat and wildlife resources or greater fish production. Restoration efforts will eradicate invasive, non-native plants and re-establish native vegetation in salt marsh habitats of designated wildlife management areas, such as the Humboldt Bay National Wildlife Refuge.

Staff will file a Notice of Exemption upon Conservancy approval.